

217953US-2 PCT

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF: :  
YUJI ABURAKAWA ET AL : ATTN: APPLICATION DIVISION  
SERIAL NO: NEW U.S. PCT APPLN :  
(Based on PCT/JP01/03845)  
FILED: HEREWITH : EXAMINER:  
FOR: NETWORK SYSTEM OF RADIO :  
BASE STATIONS AND CONTROL  
STATION, AND METHODS FOR  
SWITCHING OF BASE STATIONS,  
SIGNAL PROCESSING AND  
HANDOVER CONTROL

PRELIMINARY AMENDMENT

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

SIR:

Prior to a first examination on the merits, please amend the above-identified application as follows:

IN THE CLAIMS

Please amend the claims as follows:

10. (Amended) The network system of radio base stations as claimed in one of claims 1 or 7, characterized in that:

the network system of radio base stations is organized in a loop structure, wherein the network system comprises the base stations provided in the plurality of cells and the control station controlling the base stations, in which the base stations and the control station are connected by the optical fibers.

11. (Amended) The network system of radio base stations as claimed in one of claims 1 or 7, characterized in that:

the network system of radio base stations is organized in a mesh structure, wherein the network system comprises the base stations provided in the plurality of cells and the control station controlling the base stations, in which the base stations and the control station are connected by the optical fibers.

12. (Amended) The network system of radio base stations as claimed in one of claims 1 or 7, characterized in that:

the network system of radio base stations is organized in a cluster structure, wherein the network system comprises the base stations provided cluster control station which communicates with the radio communication terminal before the movement transmits signals intended for the radio communication terminal via the upper-level control station and a new cluster control station on the same wavelength as one used for transmitting optical signals to the previous base station, and the new cluster control station transmits signals intended for the radio communication terminal to the new cluster control station with the same wavelength as one used for transmitting optical signals to the previous base station.

15. (Amended) The network system of radio base stations as claimed in claim 13, characterized in that:

the upper-level control station comprises an optical wavelength converting part; and  
when a wavelength of the optical signals used for transmission to the previous base station is used in the new cluster, the upper-level control station converts the wavelength into one that is not being used in the new cluster by the wavelength converting part, and transmits the optical signals to the cluster control station in the new cluster.

## IN THE ABSTRACT

Please amend the Abstract on page 55 as follows:

### ABSTRACT

A network system of radio base stations provided in a plurality of cells and a control station controlling the base stations. The base stations and the control station are connected by optical fibers using a wavelength multiplexing transmission method. The base station includes a variable-wavelength transmitter transmitting an optical signal having a predetermined wavelength, and an optical coupler combining optical signals from the variable-wavelength transmitter to transmit the optical signals using the wavelength multiplexing transmission method. The control station includes a plurality of optical receivers receiving wavelengths of the optical signals transmitted using the wavelength multiplexing transmission method, and an optical coupler splitting the wavelength-multiplexed optical signals transmitted from the base stations into the optical receivers by wavelength. When the radio communication terminal communicating with the base station moves and changes the base station to communicate with, then a new base station which communicates with the radio communication terminal after a movement of the radio communication terminal controls the wavelength of the variable-wavelength transmitter, and then transmits the optical signals to the control station with the same wavelength as one used for transmitting by a previous base station which communicates with the radio communication terminal before the movement.

REMARKS

Favorable consideration of this application, as presently amended, is respectfully requested.

The present preliminary amendment is submitted to place the above-identified application in more proper format under United States practice.

By the present preliminary amendment the claims have been amended to no longer recite any improper multiple dependencies.

The Abstract has also been amended to be in more proper format under United States practice.

The present application is believed to be in condition for a full and thorough examination on the merits. An early and favorable consideration of the present application is hereby respectfully requested.

Respectfully submitted,

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Amendment Filed on: \_\_\_\_\_

• 1-10-2002

IN THE CLAIMS

Please amend the claims as follows:

--10. (Amended) The network system of radio base stations as claimed in [each] one of claims [1-9] 1 or 7, characterized in that:

the network system of radio base stations is organized in a loop structure, wherein the network system comprises the base stations provided in the plurality of cells and the control station controlling the base stations, in which the base stations and the control station are connected by the optical fibers.

11. (Amended) The network system of radio base stations as claimed in [each] one of claims [1-9] 1 or 7, characterized in that:

the network system of radio base stations is organized in a mesh structure, wherein the network system comprises the base stations provided in the plurality of cells and the control station controlling the base stations, in which the base stations and the control station are connected by the optical fibers.

12. (Amended) The network system of radio base stations as claimed in [each] one of claims [1-9] 1 or 7, characterized in that:

the network system of radio base stations is organized in a cluster structure, wherein the network system comprises the base stations provided cluster control station which communicates with the radio communication terminal before the movement transmits signals

intended for the radio communication terminal via the upper-level control station and a new cluster control station on the same wavelength as one used for transmitting optical signals to the previous base station, and the new cluster control station transmits signals intended for the radio communication terminal to the new cluster control station with the same wavelength as one used for transmitting optical signals to the previous base station.

15. (Amended) The network system of radio base stations as claimed in [one of] claim 13[ or 14], characterized in that:

the upper-level control station comprises an optical wavelength converting part; and  
when a wavelength of the optical signals used for transmission to the previous base station is used in the new cluster, the upper-level control station converts the wavelength into one that is not being used in the new cluster by the wavelength converting part, and transmits the optical signals to the cluster control station in the new cluster.--

#### IN THE ABSTRACT

Please amend the Abstract on page 55 as follows:

--ABSTRACT

[The present invention is a] A network system of radio base stations [comprising base stations] provided in a plurality of cells and a control station controlling the base stations[, in which the] . The base stations and the control station are connected by optical fibers using a wavelength multiplexing transmission method[, wherein: the] . The base station [comprises] includes a variable-wavelength transmitter [for] transmitting an optical signal having a predetermined wavelength, and an optical coupler [for] combining optical signals from the variable-wavelength transmitter [in order] to transmit the optical signals using the wavelength multiplexing transmission method[, the] . The control station [comprises]

includes a plurality of optical receivers [for] receiving wavelengths of the optical signals transmitted using the wavelength multiplexing transmission method, and an optical coupler [for] splitting the wavelength-multiplexed optical signals transmitted from the base stations into the optical receivers by wavelength[, and when] . When the radio communication terminal communicating with the base station moves and changes the base station to communicate with, then a new base station which communicates with the radio communication terminal after a movement of the radio communication terminal controls the wavelength of the variable-wavelength transmitter, and then transmits the optical signals to the control station with the same wavelength as one used for transmitting by a previous base station which communicates with the radio communication terminal before the movement.--